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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,315

11/24/2003

Hirokazu Matsuura

FUSA 20.757

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7590

07/14/2006

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EXAMINER

NAMAZI, MEHDI

ART UNIT

PAPER NUMBER

2189

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/720,315	Applicant(s) MATSUURA ET AL.	
	Examiner Mehdi Namazi	Art Unit 2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/20/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to amendment filed April 20, 2006.

Response to Arguments

Applicant's arguments filed on April 20, 2006 have been fully considered but they are not persuasive.

Applicant's arguments that "Lin describes each master device monitoring write commands and addresses that flow on the system bus. And when the data stored in the common memory is changed by a write command, the data stored in the cache memories of said each master device is invalidated." (page 8, paragraph 2) has been considered. However, examiner agrees that the above paragraph is part of Lin's invention, he also teaches "if the information is to be changed in the slave device 214 or 216, then the cached copy in the cache memory 242 (FIG. 5) (or cache memory 122, FIG. 6) will have to be replaced." (col. 5, lines 52-55)

Drawings

The drawing was received on April 20, 2006. These drawing is acceptable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art, and further in view of Lin (US. Patent No. 6,622,216).

As per claims 1, 6, and 9, AAPA teaches a multiprocessor system comprising a common memory and a number of processors connected via a common bus (fig. 10, processors elements 21, common memory 23, and G bus 10 which serving as common bus), only one processor being allowed to access the same data area of said common memory wherein (page 2, lines 26-27 "a prescribed processor is to acquire the bus-use privilege"); said common memory is provided with a number of data areas that store data and with a control information area that stores control information indicating whether each of the data areas is in use (fig. 10 common memory 23 has been divided into plurality of data storage sections and a control information area "semf" for storing control information);

As per claims 1, 6, and 9, AAPA teaches the claimed invention, but fails to teach each processor is provided with a storage unit for storing same data and same control information as those stored in the common memory and with an access controller; and the access controller of a processor monitors data and addresses that flow on the common bus, accepts data written to said common memory and data read from said common memory and stores this data in the storage unit within its own processor.

Lin teaches multiprocessor system wherein each processor has its own storage (cache) (figs. 5, and 6), and bus snooping (monitoring) for cache coherency in order to maintain coherency (having the same data and other informations) between information

stored in the shared memory and copies of the information stored in one or more cache memories (col. 1, lines 34-36).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention to modify the work of AAPA, because Lin teaches bus snooping for cache coherency in order to maintain coherency between information stored in the shared memory and copies of the information stored in one or more cache memories (col. 1, lines 34-36).

As per claims 2, and 7, AAPA teaches identical addresses are allocated to address spaces of the storage unit of each processor and of the common memory (page 6, lines 5-40, controller 22 sends the read access to the common bus 10 and waits for common memory card CM to send back the result of acquisition of semf-a, if the semf-a is in use by CPU #0 than it sends back a signal that it is busy by another processor), and the access controller of the processor that does not have access privilege writes data on the common bus to a storage area of a storage unit designed by an address on the common bus (page 6, lines 5-40, since the processor #1 has send the access information to common bus, if the semf-a is busy the access information remains on the bus to snoop data read by processor #0).

As per claims 3, and 8, AAPA teaches when access to a prescribed data area in said common memory is requested by a host apparatus, the access controller of each processor reads control information corresponding to this data area in said storage unit

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determines whether another processor is busy and if another processor is busy, inputs result of the determination to the host apparatus without accessing said common memory (pages 6-7, lines 27-3).

As per claim 4, AAPA teaches when read-out of data from a prescribed data area in said common memory is commanded by a host apparatus, said data area in said storage unit is valid, then the access controller of a processor that has access privilege reads data from this data area and inputs the data to the host apparatus (pages 3-4, lines 35-26).

As per claim 5, AAPA teaches writing of data to a prescribed data wherein when area in said common memory is commanded by the host apparatus, the access controller of a processor that has access privilege writes data to a data area of said storage unit and sends this data as well as an address corresponding to this data area to the common bus (pages 4-5, lines 23-8).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

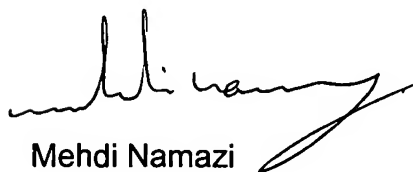
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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

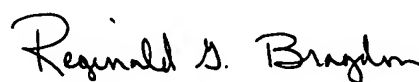
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehdi Namazi whose telephone number is 571-272-4209. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon can be reached on 571-272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Mehdi Namazi
July 8, 2006



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